

AMENDMENT TO THE CLAIMS

Claim 1. (*Currently Amended*) A protective article for a joint of a person's body, said article comprising:

a rigid frame adapted to cover the joint, said rigid frame having a flexibility to allow bending of the protective article along at least one bending direction, said rigid frame comprising at least one bending zone having at least one abutment with opposed edges limiting bending of the frame and limiting bending of the joint along said bending direction at a predetermined angle of bending, said rigid frame having a rigidity having of a magnitude to avoid hyper-flexion of the joint beyond said predetermined angle of bending.

Claim 2. (*Currently Amended*) A protective article according to claim 1, wherein:

said at least one abutment of the bending zone includes at least one notch substantially perpendicular to a bending plane; and

the notch is beveled to become closed for said predetermined bending angle so as to constitute said abutment to limit said bending of said frame.

Claim 3. (*Previously Presented*) A protective article according to claim 1, ~~wherein~~ further comprising:

a flexible and substantially inextensible membrane, said frame being the ~~frame is fixed on the~~ ~~a flexible and substantially inextensible~~ membrane against movement along the membrane, the membrane being located on a side of the joint.

Claim 4. (*Previously Presented*) A protective article according to claim 2, wherein:

said bending zone includes an insert constituted of a compressible material positioned in said notch.

Claim 5. (*Currently Amended*) A protective article according to claim 2, wherein:

said rigid frame is extended on opposite sides of the bending zone by respective supports; and

said bending zone has a thickness greater than a thickness of either of ~~is thicker than~~ said supports.

Claim 6. (*Currently Amended*) A protective article according to claim 5, further comprising:

an envelope for enveloping the joint, said rigid frame, including said supports, being detachably positioned upon said envelope to allow the protective article to be detached from said envelope to allow the person to wear the envelope without having the protective article positioned thereupon; and

wherein at least one of said supports ~~support~~ cooperates with a shock-absorbing element affixed to said envelope for improving control of the bending by compression in response to engagement between said rigid frame and said shock-absorbing element during said bending.

Claim 7. (*Currently Amended*) A protective article according to claim 6, wherein:

said shock-absorbing element is positioned in a pocket affixed to said envelope; and

a portion of said rigid frame extends into said pocket for said engagement.

Claim 8. (*Previously Presented*) A boot incorporating a protective article according to claim 1, wherein:

said rigid frame is positioned, in an area of an ankle of a foot, on a front surface of the foot.

Claim 9. (*Previously Presented*) An assembly for binding a foot to a sports apparatus incorporating the protective article according to claim 1, wherein:

said rigid frame is positioned, in an area of an ankle of a foot, on a front surface of the foot.

Claim 10. (*Withdrawn*) A glove incorporating the protective article according to claim 1, wherein:

said rigid frame is positioned, at an area of a wrist of a hand, on a top of the hand.

Claim 11. (*Withdrawn*) A protective article according to claim 1, wherein:

said rigid frame is positioned, in an area of a knee, on a front surface of the leg.

Claim 12. (*Withdrawn*) A protective article according to claim 1, wherein:

said rigid frame is positioned on a spine and especially in an area of the neck, on the back.

Claim 13. (*Previously Presented*) A boot according to claim 8, wherein:

the boot includes a boot-tightening means, and wherein said rigid frame includes at least one cooperating mechanism complementary of said boot-tightening means.

Claim 14. (*Previously Presented*) A boot according to claim 8, wherein:
the boot includes a shell supported on a sole; and
the rigid frame includes a front support fixed on said shell over an instep area.

Claim 15. (*Previously Presented*) A boot according to claim 14, wherein:
said shell includes a recess in an area for accommodating toes of a wearer.

Claim 16. (*Previously Presented*) A protective article according to claim 1, wherein:
said predetermined angle, for an ankle, has a value comprised between +30° and +45°.

Claim 17. (*Previously Presented*) A protective article according to claim 5, wherein:
said bending zone is narrower than said supports.

Claim 18. (*Previously Presented*) A protective article according to claim 1, wherein:
the frame is fixed on a flexible and substantially inextensible membrane against movement along the membrane.

Claim 19. (*Currently Amended*) ~~A An sports apparatus article for protecting a joint of a person's body from hyper-flexion, said article comprising:~~

~~an envelope a body adapted to be worn by a person by being to be placed over a the joint of the person;~~

~~a protective article for protecting the joint from hyper-flexion, said protective article comprising a frame detachably mounted on said body over the joint, with respect~~

to said envelope to allow the person to wear the envelope without the protective article;

the frame extending length-wise ~~having a length adapted to extend~~ along a bending plane between a first end and a second end;

said frame having at least one bending zone between said first and second ends, and first and second support areas on opposite sides of said bending zone;

said frame being more rigid, at least in said bending zone, than said ~~body~~ envelope;

said bending zone having a flexibility adapted to allow bending of the frame in a bending direction within said bending plane through a range of bending;

said frame further comprising at least one abutment comprising a pair of opposed edges within said bending zone, said pair of opposed edges being movable in said bending direction from initial positions relative to each other to limiting positions in which said pair of opposed edges are not further movable in said bending direction to thereby define a maximum bending of the frame at an end of said range of bending in said bending direction;

said frame having a rigidity, at least in said bending zone, sufficient to prevent said bending of said frame at said bending zone beyond said range of bending during use of the ~~article~~ sports apparatus and to avoid hyper-flexion of the joint.

Claim 20. (*Currently Amended*) A sports apparatus ~~protective article~~ according to claim 19, wherein:

said at least said one abutment comprises a notch extending substantially perpendicular to said bending plane;

at a beginning of said range of bending said notch is open, and at an end of said range of bending said notch is closed.

Claim 21. (*Currently Amended*) A sports apparatus ~~protective article~~ according to claim 19, wherein:

said at least said one abutment comprises a notch having abutment surfaces extending substantially perpendicular to said bending plane;

said abutment surfaces of said abutment are not engaged at a beginning of said range of bending, and said abutment surfaces of said abutment abut at an end of said range of bending.

Claim 22. (*Currently Amended*) A sports apparatus ~~protective article~~ according to claim 19, wherein:

said at least said one abutment comprises a notch extending substantially perpendicular to said bending plane;

a compressible insert is positioned within said notch, said insert being fully compressed at an end of said range of bending.

Claim 23. (*Currently Amended*) A sports apparatus ~~protective article~~ according to claim 19, wherein:

said abutment comprises a notch, said notch not extending entirely through said frame.

Claim 24. (*Canceled*)

Claim 25. (*Currently Amended*) A sports apparatus ~~protective article~~ according to claim 19, further comprising:

a bendable and substantially inextensible base;

said frame being fixed against sliding movement along said base.

Claim 26. (*Currently Amended*) A sports apparatus ~~protective article~~ according to claim 19, wherein:

said bending zone has a thickness greater than a thickness of either of said support areas of said frame.

Claim 27. (*Currently Amended*) A sports apparatus ~~protective article~~ according to claim 19, further comprising:

a shock-absorbing element positioned for engagement with said frame, said shock-absorbing element being compressible during bending of said frame.

Claim 28. (*Currently Amended*) A sports apparatus ~~protective article~~ according to claim 27, further comprising:

a pocket;

said shock-absorbing element being positioned within said pocket.

Claim 29. (*Currently Amended*) A sports apparatus ~~protective article~~ according to claim 19, wherein:

the protective article is adapted to protect an ankle against hyper-flexion; and

said range of bending has an end value no greater than between 30° to 45° from a beginning value, said beginning value corresponding to a said pair of opposed edges of said at least one abutment being at said initial positions relative to each other.

Claim 30. (*Previously Presented*) A boot comprising:

an upper having a high portion and a low portion, the high portion adapted to extend higher than an ankle of a wearer and the low portion adapted to extend along an instep of the wearer;

a frame comprising a tibia support, an instep support, and a bending zone between the tibia and instep supports, said frame being detachable from the boot to allow the wearer to wear and to use the boot without the frame;

said bending zone of said frame having a flexibility adapted to allow bending of said tibia support in a bending direction relative to said instep support within a bending plane through a range of bending, said range of bending comprises an angle of movement of no greater than 45°;

said frame further comprising at least one abutment comprising a pair of abutting edges within said bending zone, said pair of opposed edges being movable in said bending direction from initial positions relative to each other to limiting positions in which said pair of opposed edges are not further movable in said bending direction to thereby define a maximum bending of the frame at an end of said range of bending in said bending direction;

said frame having a rigidity, at least in said bending zone, sufficient to prevent said bending of said frame at said bending zone beyond said range of bending during use of the boot when said pair of opposed edges are in their limiting positions.

Claim 31. (*Previously Presented*) A boot according to claim 30, wherein:

said at least said one abutment comprises a notch extending substantially perpendicular to said bending plane;

at a beginning of said range of bending said notch is open, and at an end of said range of bending said notch is closed.

Claim 32. (*Previously Presented*) A boot according to claim 30, wherein:

said at least said one abutment comprises a notch having abutment surfaces extending substantially perpendicular to said bending plane;

said abutment surfaces of said abutment are not engaged at a beginning of said range of bending, and said abutment surfaces of said abutment abut at an end of said range of bending.

Claim 33. (*Previously Presented*) A boot according to claim 30, wherein:

said at least said one abutment comprises a notch extending substantially perpendicular to said bending plane;

a compressible insert is positioned within said notch, said insert being fully compressed at an end of said range of bending.

Claim 34. (*Previously Presented*) A boot according to claim 30, wherein:

said notch does not extend entirely through said frame.

Claim 35. (*Previously Presented*) A boot according to claim 30, wherein:

said frame is more rigid than said upper.

Claim 36. (*Previously Presented*) A boot according to claim 30, further comprising:

a bendable and substantially inextensible base;

said frame being fixed against sliding movement along said base.

Claim 37. (*Previously Presented*) A boot according to claim 30, wherein:

said bending zone has a thickness greater than a thickness of either of said supports of said frame.

Claim 38. (*Previously Presented*) A boot according to claim 30, further comprising:

a shock-absorbing element positioned for engagement with said frame, said shock-absorbing element being compressible during bending of said frame.

Claim 39. (*Previously Presented*) A boot according to claim 38, further comprising:

a pocket;

said shock-absorbing element being positioned within said pocket.

Claim 40. (*Previously Presented*) A boot according to claim 30, wherein:

said upper comprises a tongue; and

said frame is fixed to said tongue.